

III. Amendments of the Claims

*Please cancel claims 2 and 3 and enter the amendments to claims 1, 4, 5, 7, 8, 10, 13, 15, 16 and 17 as follows:*

1. (*Currently Amended*) A ~~culturally~~ modified lactic acid bacterial cell that has, ~~relative to the cell from which it is derived, an increased content of a porphyrin compound~~ been treated with a porphyrin-containing substrate to cause the cell to contain at least 0.1 ppm on a dry matter basis of a porphyrin compound.
2. (*Cancelled*)
3. (*Cancelled*)
4. (*Currently Amended*) A cell according to claim 3 1 that contains at least 0.1 ppm on a dry matter basis of a cytochrome.
5. (*Currently Amended*) A cell according to claim 4 1 that contains at least 0.1 ppm on a dry matter basis of cytochrome d<sub>1</sub>.
6. (*Original*) A cell according to claim 1 which is of a bacterial species selected from the group consisting of *Lactococcus* spp., *Lactobacillus* spp., *Leuconostoc* spp., *Pediococcus* spp., *Streptococcus* spp., *Propionibacterium* spp., *Bifidobacterium* spp. and *Oenococcus* spp.
7. (*Currently Amended*) A cell according to claim 6 where the bacterial species is of *Lactococcus lactis*, ~~including *Lactococcus lactis* strain CHCC373 deposited under the accession number DSM12015.~~
8. (*Currently Amended*) A cell according to claim 1 which, when it is in the form of a cell suspension, is inoculated in a concentration of  $10^7$  cells/ml into low pasteurised skimmed milk having 8 ppm of dissolved oxygen and ~~leaving~~ the milk

is allowed to stand for about two hours at a temperature of about 30°C, the cell consumes at least 25% of the dissolved oxygen.

9. (Original) A cell according to claim 8 where the cell consumes at least 50% of the dissolved oxygen.

10. (Currently Amended) A cell according to claim 1, which, relative to ~~the~~ a cell from which it is derived, has a decreased NADH oxidase (NOX) activity, and/or a decreased lactate dehydrogenase (LDH) activity, or a decreased NOX activity and decreased LDH activity.

11. (Original) A cell according to claim 10 that has a NOX activity which is decreased by at least 10%.

12. (Original) A cell according to claim 10 that has a LDH activity which is decreased by at least 10%.

13. (Currently Amended) A starter culture composition comprising the culturally modified lactic acid bacterial cell of claim 1.

14. (Original) A composition according to claim 13 where the composition is in the form of a frozen, liquid or freeze-dried composition.

15. (Currently Amended) A composition according to claim 13 ~~containing~~ comprising an amount of viable culturally modified lactic acid bacterial cells which is in the range of  $10^4$  to  $10^{12}$  CFU per g.

16. (Currently Amended) A composition according to claim 13 which comprises modified lactic acid bacterial cells of two or more different lactic acid bacterial strains.

17. (*Currently Amended*) A composition according to claim 13 which further comprises at least one component enhancing the viability of the bacterial cell during storage ~~including a bacterial nutrient and/or a cryoprotectant.~~
18. (*Previously Amended*) A method of reducing the oxygen content in a food or feed product or in a food or feed product starting material comprising adding to the product or to the starting material an effective amount of the culturally modified lactic acid bacterial cells according to claim 1.
19. (*Original*) A method according to claim 18 wherein the amount of modified cell is in the range of  $10^4$  to  $10^{12}$  CFU per g.
20. (*Original*) A method according to claim 18 wherein the starting material for the food product is selected from the group consisting of milk, a vegetable material, a meat product, a fruit juice, a must, a wine, a dough and a batter.
21. (*Previously Amended*) A method of improving the shelf life and/or the quality of an edible product comprising adding to the product an effective amount of the culturally modified lactic acid bacterial cells according to claim 1.
22. (*Previously Amended*) A method of preparing a fermented food or feed product, comprising adding an effective amount of the culturally modified lactic acid bacterial cell according to claim 1 to a food or feed product starting material, wherein the cell is capable of fermenting said starting material to obtain the fermented food or feed.
23. (*Original*) A method according to claim 22 wherein the starting material for the food product is selected from the group consisting of milk, a vegetable material, a meat product, a fruit juice, a must, a wine, a dough and a batter.

24. *(Original)* A method according to claim 23, wherein the resulting fermented food product is a dairy product including a product selected from the group consisting of cheese and buttermilk.
25. *(Previously Amended)* Use of the lactic acid bacterial cell of claim 1 for the production of a metabolite produced by the cell or by a non-modified cell co-cultivated therewith.
26. *(Currently Amended)* Use according to claim 25 where the metabolite is selected from the group consisting of a lactate, ~~lactic~~, acetaldehyde,  $\alpha$ -acetolactate, acetoin, acetate, ethanol, diacetyl and 2,3-butylene glycol.
27. *(Previously Amended)* Use of the lactic acid bacterial cell of claim 1 for the production of a bacteriocin.
28. *(Original)* Use according to claim 27 where the bacteriocin is selected from the group consisting of nisin, reuterin and pediocin.
29. *(Previously Added))* A method of reducing the oxygen content in a food or feed product or in a food or feed product starting material comprising adding to the product or to the starting material an effective amount of the starter culture composition according to claim 13.
30. *(Previously Added)* A method of improving the shelf life and/or the quality of an edible product comprising adding to the product an effective amount of the starter culture composition according to claim 13.
31. *(Currently Amended)* A method of preparing a fermented food or feed product, comprising adding an effective amount of the composition of claim 13 to

a food or feed product starting material, wherein the composition is capable of fermenting said starting material to obtain the fermented food or feed product.

32. *(Previously Added)* Use of the composition of claim 13 for the production of a metabolite produced by the composition or by a non-modified cell co-cultivated therewith.

33. *(Previously Added)* Use of the composition of claim 13 for the production of a bacteriocin.

*Kindly add new claims 34-52 as follows:*

34. *(New)* A cell according to claim 6, where the bacterial species is *Lactococcus lactis* strain CHCC373 deposited under the accession number DSM12015.

35. *(New)* A composition according to claim 13 which includes a bacterial nutrient, a cryoprotectant or a bacterial nutrient and a cryoprotectant.


36. *(New)* A cell according to claim 1 which contains at least 0.2 ppm on a dry matter basis of a porphyrin compound.

37. *(New)* A cell according to claim 1 which contains at least 1 ppm on a dry matter basis of a porphyrin compound.

38. *(New)* A cell according to claim 1 which contains at least 5 ppm on a dry matter basis of a porphyrin compound.

39. *(New)* A cell according to claim 1 which contains at least 20 ppm on a dry matter basis of a porphyrin compound.

40. *(New)* A cell according to claim 1 which contains at least 60 ppm on a dry matter basis of a porphyrin compound.

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41. (New) A cell according to claim 1 which contains at least 80 ppm on a dry matter basis of a porphyrin compound.
42. (New) A cell according to claim 1 which contains at least 100 ppm on a dry matter basis of a porphyrin compound.
43. (New) A cell according to claim 1 which contains at least 0.5 ppm on a dry matter basis of a cytochrome.
44. (New) A cell according to claim 1 which contains at least 10 ppm on a dry matter basis of a cytochrome.
45. (New) A cell according to claim 1 which contains at least 40 ppm on a dry matter basis of a cytochrome.
46. (New) A cell according to claim 1 which contains at least 70 ppm on a dry matter basis of a cytochrome.
47. (New) A cell according to claim 1 which contains at least 90 ppm on a dry matter basis of a cytochrome.
48. (New) A cell according to claim 1 which reduces the amount of oxygen present in a medium by at least 1% per hour.
49. (New) A cell according to claim 1 which reduces the amount of oxygen present in a medium by at least 20% per hour.
50. (New) A cell according to claim 1 which reduces the amount of oxygen present in a medium by at least 40% per hour.
51. (New) A cell according to claim 1 which reduces the amount of oxygen present in a medium by at least 70% per hour.

52. (New) A cell according to claim 1 which reduces the amount of oxygen present in a medium by at least 90% per hour.
53. (New) A method for the production of a metabolite comprising adding the composition of claim 13 to a starting material and maintaining the resulting mixture under conditions suitable to produce the metabolite.
54. (New) A method for the production of a metabolite comprising adding the composition of claim 13 and a non-modified cell co-cultivated with the composition and maintaining the resulting mixture under conditions suitable to produce the metabolite.
55. (New) A method for the production of a bacteriocin comprising adding the composition of claim 13 to a starting material and maintaining the resulting mixture under conditions suitable to produce bacteriocin.
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